# QUAD

*twenty four* P

**Valve**

## Phono Preamplifier

## Owner's Manual

Quad Electroacoustics Ltd, IAG House,
Sovereign Court, Ermine Business Park,
Huntingdon PE29 6XU
United Kingdom
www.quad-hifi.co.uk
Tel: 01480 447700  Fax: 01480 431767

# INFORMATION TO THE USER

**Good Practice**

Switch off all equipment in the system before connecting or disconnecting signal leads. This will prevent unpleasant and loud noises coming from the loudspeakers and avoid the risk of damage to equipment.

Please be aware that high sound pressure levels can cause permanent damage to your hearing and severe annoyance to neighbours.

**Guarantee and Product Registration**

Your Quad equipment is guaranteed against any defect in material and workmanship for one year from the date of purchase (proof of purchase required). We ask that you complete and return the enclosed Warranty Registration Form. Within the guarantee period, Quad will undertake replacement of defective parts free of charge provided that the failure was not caused by misuse, accident or negligence. Your statutory rights within the territory in which you purchased the equipment are not affected by this guarantee.

Quad carries out a regular review of its products and reserves the right to adjust the specifications and performance from time to time.

There are no user replaceable or serviceable parts inside this unit. Unauthorised attempts to service or modify this product will invalidate the warranty.

**Service Arrangements**

Equipment for servicing should be returned to the supplying dealer, or to the appointed service agents for your area. The addresses of Service Agents for the UK, USA and Canada are listed at the rear of this manual. If you are abroad and there is no suitable dealer in your area, please contact the distributor for the country in which it was purchased or Quad Electroacoustics Ltd.

Equipment returned for service should use the original packing. Please enclose a brief note with your name and address and the reason for returning the unit.

**Running In**

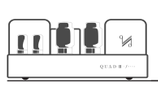
Most high fidelity equipment works better after it has been run in for some time. In the case of valve equipment the period of running in is much more important. Components that go into valve equipment work at voltages and temperatures far higher than their solid-state counterparts and when new they should spend an extended period at those working temperatures to bed in properly. This is especially the case with power amplifier output valves and output transformers.

We recommend an initial running in period of at least four and preferably twelve hours before you first use the equipment.

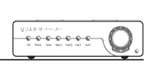
The patience and care that you devote in these initial stages will be amply rewarded by many years of outstanding performance from your QUAD valve equipment.

**Care and Cleaning**

The equipment should be switched off and allowed to fully cool down before being cleaned with a barely damp cloth. Avoid using solvents and abrasives as they will damage the paint finish. Dry fully before re-use.

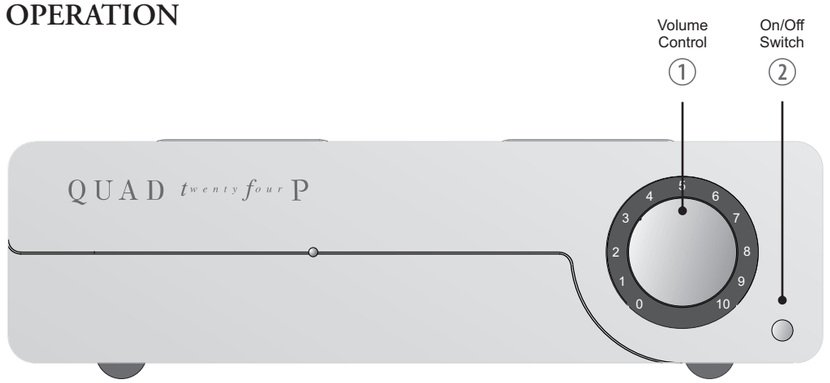








# OPERATION




**Switching On**

- The mains switch ② on the QUAD *twenty four* P is a 'push ON push OFF' type. When the switch is depressed power is applied, when released, the power is switched off.
- The volume control ① is a rotary type. Turn this fully anticlockwise to its minimum setting (0).
- Switch on the power amplifier (and control unit if used).
- Switch on the QUAD *twenty four* P via the ON/OFF switch ① The mains indicator will light and the unit is operational.

**Warming Up**

Valve equipment needs time to reach operating temperature. Allow at least five minutes for the QUAD *twenty four* P to 'warm up' before use. Warming up should always be done with the system volume control at zero. If you are using a valved power amp the warming up period should be extended to at least fifteen minutes.

If you play loud music while the system is cold the valves will be starved of both voltage and current. The resulting distortion is unpleasant and potentially damaging to your amplifier and speakers.

**Operation**

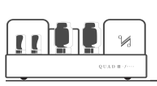
**Normal Operation:** After it has warmed up fully, the system is ready for use. Remember to turn the main system volume control to minimum when changing records, and especially when cleaning your stylus.

**Adjusting Sensitivity:** Adjustments to sensitivity may be carried out with the unit operational only if the system volume control is first set to minimum. Turn up the volume control only after adjustment.

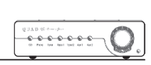
**Switching Off:** When not in use the unit should be switched off.

**Using the QUAD *twenty four* P as a Control Unit**

If there is sufficient gain in the power amplifier, the QUAD *twenty four* P can be used as a control unit in a basic audiophile system comprising a turntable, power amplifier and loudspeakers. To do this, connect the VARIABLE output of the QUAD *twenty four* P directly to the power amplifier signal inputs. If the power amplifier has an input level control this should be advanced to maximum as the volume control on the QUAD *twenty four* P will now function as the system volume control.







## IMPORTANT SAFETY INFORMATION

Read these instructions.

Keep these instructions.

Heed all warnings.

Follow all instructions.

Do not use this apparatus near water.

Clean only with dry cloth.

Do not block any ventilation openings.

Install in accordance with the manufacturer's instructions.

Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

Do not defeat the safety purpose of the polarized or grounding type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wider blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

Use only attachments/accessories specified by the manufacturer.

Use only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

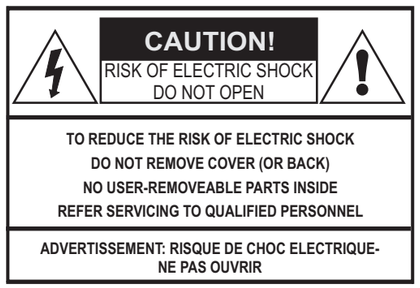
Unplug this apparatus during lightning storms or when unused for long periods of time.

Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Warning: To reduce the risk of fire or electrical shock, do not expose this product to rain or moisture. The product must not be exposed to dripping and splashing and no object filled with liquids such as a vase of flowers should be placed on the product.

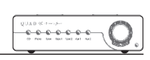
No naked flame sources such as candles should be placed on the product.

Caution: Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate this device.


CAUTION!
RISK OF ELECTRIC SHOCK
DO NOT OPEN
TO REDUCE THE RISK OF ELECTRIC SHOCK
DO NOT REMOVE COVER (OR BACK)
NO USER-REMOVEABLE PARTS INSIDE
REFER SERVICING TO QUALIFIED PERSONNEL
ADVERTISSEMENT: RISQUE DE CHOC ELECTRIQUE-
NE PAS OUVRIR

This symbol indicates that there are important operating and maintenance instructions in the literature accompanying this unit.

This symbol indicates that dangerous voltage constituting a risk of electric shock is present within this unit.



QUAD *twenty four* P Owner's Manual

## MAIN SERVICE CENTRES IN THE UK, USA AND CANADA

USA

IAG America, Inc.
15 Walpole Park South
Walpole
MA 02081
Tel: +1 508 850 3950

CANADA

Korbon Trading Ltd
6800 Kitimat Road
Units 19-20
Mississauga
Ontario
Tel: +1 905 567 1920

U.K.

QUAD Electroacoustics Ltd.
IAG House, Sovereign Court,
Ermine Business Park,
Huntingdon,
Cambs PE29 6XU,
England.
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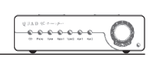


## SPECIFICATIONS

QUAD *twenty four* P

***Phono preamplifier***

| | |
|---|---|
| **Valve complement** | 4 x 6111 |
| **THD** | <0.08% (A-weighted) |
| **Frequency Response** (RIAA/IEC equalisation) | 20Hz to 20kHz +/-0.5dB |
| **Hum and Noise** (mm position, input shorted) | Better than 60 dB |
| **Input Impedance** | |
| Moving Magnet | 47kΩ |
| Moving Coil | 10Ω |
| **Stage gain** | |
| High Sensitivity | 1.3mV (MM)/130uV (MC) |
| Medium Sensitivity | 2.6mV (MM)/260uV (MC) |
| Low Sensitivity | 5.2mV (MM)/520uV (MC) |
| **Nominal Output Level** (ref 5.2mV, MM, Low) | 1.0 V |
| **Inputs** | Selectable MC/MM cartridge |
| **Outputs** | 1 x Fixed line level<br>1 x Variable line level |
| **Power Consumption** | 15 VA maximum |

### COMPLIANCE

This Quad product complies with the relevant clauses enshrined in the following standards and directives in force at the time of the introduction of the product.

**EU**

Directives: 89/336/EC, 72/23/EEC
Safety: EN60065 (CB Scheme)
Emissions: EN55013, EN61000
Immunity: EN55020:2002.

**USA:** UL 6500:2002.

**CANADA:** CAN/CSA-E60065-00

Manual: Quad 24 P Phono 09-04 Issue 2

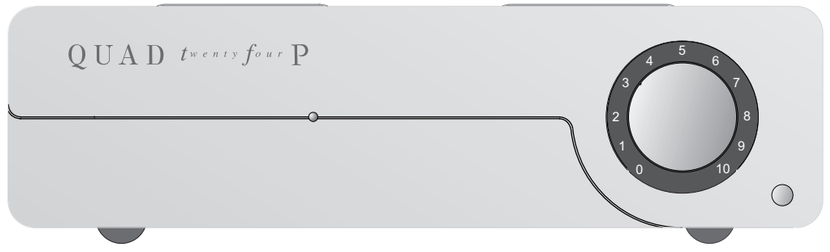




# QUAD

## *twenty four* P

## Owner's Manual




The QUAD *twenty four* P is a dedicated phono cartridge preamplifier of impeccable performance. Styled to match the QC *twenty four* pre-amplifier, the QUAD *twenty four* P will partner any high performance line-level pre-amplifier. In addition, the dedicated vinyl lover will find that this eminently musical and elegant pre-amplifier provides the ideal upgrade path to an enhanced listening experience.

With provision for moving coil and moving magnet cartridges, this versatile unit caters for all modern types of pickup cartridge, and its extremely low noise and wide, stable bandwidth will bring out the best in your record collection.

The QUAD *twenty four* P uses a functionally simple audio circuit featuring low-noise valves to preserve signal purity. Noise in the Moving-Coil stage is kept to extremely low levels by the use of an ingenious matching transformer which adds no sonic fingerprint while maximising dynamic range and headroom. The styling of the QUAD *twenty four* P is classic QUAD and matches the QC – *twenty four* and the QUAD II – *forty.*

The QUAD *twenty four* P is designed for the music lover. We make no exaggerated performance claims and are content to let the results speak for themselves.

Thank you for purchasing this QUAD equipment. We can only hope that it will bring you many years of listening pleasure, and that, like its illustrious valved contemporaries and predecessors, it will be a treasured possession for you and for future generations of music lovers.

**Variable Output:** The variable output is intended exclusively to connect the Quad *twenty four* P directly to the input of a power amplifier. For more information see the next page. If you are connecting the Quad *twenty four* P to a preamplifier (or an integrated amplifier with its own volume control) do not use this output as you will be duplicating the system volume control unnecessarily.

**Cartridge Selection**

The Quad *twenty four* P accepts virtually all magnetic and moving-coil cartridges currently available. Two input settings are provided. Pressing the mm/mc selector button ④ selects moving-coil (mc) cartridges; releasing the button selects moving magnet cartridges.

**Use the mm position for:**

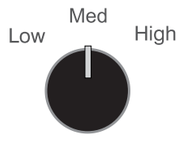
- Standard moving magnet cartridges
- High output moving-coil cartridges (read the manufacturer's guide)
- Low output moving-coil cartridges connected via step-up devices (e.g. a m-c cartridge with its own transformer)

**Use the mc position for:**

- Standard low output moving-coil cartridges only

Note: *Low output moving-coil cartridges are very low impedance devices. If you play a moving magnet cartridge with the selector set to* ***mc*** *you will get huge amounts of distorted sound with virtually no treble. If you do the reverse the output will be very low and somewhat shrill.*

**Input Sensitivity**




Use the selector switch ③ to select the appropriate sensitivity. Three levels of sensitivity are available, high, medium and low. These positions affect the amount of amplification (gain) in the circuit. The low sensitivity setting provides the least gain, and so on.

**mm position:** Most modern moving magnet cartridges (around 4mV) will require medium or high sensitivity. Some older mm cartridges may need the low setting. High output moving coil cartridges (2mV or less) which require the mm input will need the high sensitivity setting.

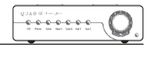
**mc position:** Moving-coil cartridge outputs vary widely. If your cartridge has an output of 250µV or less you will probably need high sensitivity.

**Note**: *Setting the sensitivity is a balance between noise and headroom. If the sensitivity is too high, headroom is lowered: if the setting is too low, noise performance may be compromised. The QUAD twenty four P has outstanding headroom performance so there is no need to be over cautious with the sensitivity setting.*

*Read the instructions that came with your cartridge and consult your dealer for advice if you are in any doubt.*

**Final Connections**

- Check that all the connections to the system are properly made.
- Turn the main system volume control to its minimum setting.
- Connect the IEC socket on the supplied power cord to the mains socket on the QUAD *twenty four* P.
- Connect the power plug into the mains socket.
- The unit is now ready for operation.





# PRELIMINARIES

**The packaging contains the following items:**

- One QUAD *twenty four* P phono preamplifier
- One IEC mains lead fitted with an appropriate mains connector;
  - for UK this is QUKES2B
  - for Europe this is QE2P2S2
  - for USA, Canada, Japan and Korea this is QU3ES2C
  - for other territories an appropriate cable will be supplied.
- Instruction Manual
- Warranty Registration Form
- One cardboard carton and packing materials

Consult the supplying dealer if any of these items are not present.

**Unpacking the unit**

Open the carton and remove the top packing pieces. Lift the unit out taking care not to damage the cabinet. DO NOT attempt to lift the apparatus out of the carton using the polythene bag. Remove the polythene bag carefully taking care not to damage the paint surface.

Retain the packing materials for future use or return them to your dealer. If you decide not to keep the packing, please dispose of it sensibly. The paper and plastics are recoverable and may be taken to an appropriate recovery service.

Please retain the user manual and the information concerning the date and place of purchase of this equipment for future reference. If you transfer this equipment to a third party, please ensure all the instructions are passed on with the product.

# INSTALLATION

**General Notes on Valve Equipment**

If this is your first valve equipment please familiarise yourself with some issues surrounding the safe use of the QUAD *twenty four* P.

**Valves get hot:** Valves (tubes) function by thermionic emission, which requires heat. Ensure adequate ventilation for your valve equipment and keep it away from thermally sensitive objects.

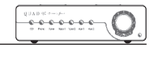
**Valve amplifiers work with high voltages:** The voltages present within this component are far higher than with solid state equipment. Do not open the case and ensure that nothing is poked, dropped or poured into it.

V**alves are microphonic:** Because valves are constructed from fine wires and tiny metal parts they can pick up external vibrations. For that reason a good, solid isolation support is recommended. Because the greatest gain in the system is from the QUAD *twenty four* P, keep it away from sources of vibration and out of the firing line of loudspeakers and subwoofers.

**Valves are susceptible to hum and noise pickup:** Keep them away from domestic appliances and other sources of interference.

**Audio connectors and cables:** Audio cables used with this Quad equipment should be of low-noise construction, fully screened to minimise hum induction and properly terminated with high quality RCA phono connectors.

Cables should be kept short to minimise hum and noise. If a cable is too short do not use an extension - purchase a new cable. Keep audio input cables physically separated from mains cables and equipment power supplies. Never run audio cables parallel with or close to mains cables.



If you use high capacitance cable to connect a moving magnet cartridge to a pickup input you may cause an audible peak in the high frequency response. If you are in any doubt consult your dealer.

**Positioning the pre-amplifier**

The pre-ampifier should ideally be placed on a rigid shelf separate to the turntable. If, however you do place the pre-amplifier beside the turntable place it to the right. This will keep the turntable motor and the mains transformer of the QUAD *twenty four* P apart and the tonearm output and signal input of the pre-amplifier together.

The QUAD *twenty four* P may be placed in an equipment rack, but ensure that there is ample free space around the unit for good ventilation and to minimise hum induction from other units.

**Checking the AC power supply**

The QUAD *twenty four* P is supplied in versions suitable for connection to 230V, 220V, 115V or 100V AC power supplies. Before connecting the unit check that you have the correct version.

Before connecting to the AC power supply, check that the voltage range marked on the back panel corresponds with that of the supply. Please check with the dealer if you have any doubt as to the voltage in your area or intend to use the equipment in regions which use other mains voltages.

**Fuses**

The mains supply fuse is accessible on the rear panel after the IEC mains plug has been removed. In the rare event that it has broken, you should check for any obvious cause before replacing the fuse with one of the correct rating and type. The correct fuse values are:

| | |
|---|---|
| **220 - 240V** (UK, Korea, etc.) | T100mAL Slow Blow 5x20mm |
| **100- 120V** (USA, Japan, etc.) | T200mAL Slow Blow 5x20mm |

You should switch off the equipment and remove the connection to the mains power outlet before changing the fuse.

**Connecting to the AC power supply**

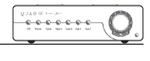
QUAD equipment supplied in Europe is provided with a mains cable fitted with an appropriate mains plug. This plug should not be cut from the cable or used with its fuse cover removed. If, for any reason, the plug is removed, it must be safely disposed of. It must never be re-used.

- A replacement plug should be wired to the supplied mains cable as follows:
- The **Brown** wire must be taken to the **LIVE** terminal.
- The **Blue** wire must be taken to the **NEUTRAL** terminal.
- The **Green/Yellow** wire must be taken to the **EARTH** terminal.

In the UK a fused 13 Amp mains plug should be fitted with a fuse link rated at 5 Amps. In other countries a value between 10 and 15 Amps should be used at either the wall socket or the mains distribution board.

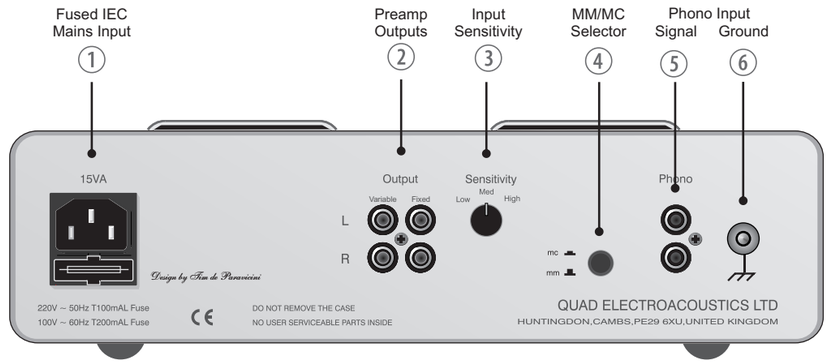
The power supply input to your QUAD equipment is via an IEC mains connector and an appropriate mains lead is supplied. For optimum performance each unit should be connected to a properly installed mains power socket. If you need to use a mains distribution unit, please ensure that it is a safety-approved unit of appropriate rating and that it is used exclusively to supply audio components.

This QUAD component must be connected to an earthed (grounded) AC supply. If you are uncertain if the mains supply in your house is efficiently earthed, you should consult a qualified electrical engineer.





**Connecting the QUAD *twenty four* P**




When making stereo connections to the QUAD *twenty four* P, RCA plugs and sockets coded *white* or *black* usually indicate the LEFT channel and those coded *red* the RIGHT channel. In a stereo pair of sockets the upper socket is usually the Left Channel and the lower socket the Right. If you are in any doubt, consult a qualified dealer.

**Connecting a turntable/tonearm**

*Before connecting your units please read the instructions that came with your pickup cartridge, turntable and tonearm. Ensure all active units in your system are switched off and unplugged.*

**Signal connections:** Most turntable/tonearms come with captive phono cables. If your turntable has phono sockets you will need a stereo RCA cable: refer to Page 3. Connect the turntable phono outputs to the Phono Signal Inputs ⑤. Push the plugs firmly into place to make secure contact.

**Ground Connections:** Most turntable/tonearm combinations use a ground wire; some use separate ground wires for turntable and tonearm. If your turntable has phono socket outputs you may need as a ground wire a single length of stranded wire the same length as the signal cables.

Connect the ground wire/s to the Input Ground terminal ⑥. Unscrew the ground terminal part way and insert the spade connector under the terminal. If the cable does not have a spade connector, bare a short length of wire and insert this under the left side of the terminal. Tighten firmly.

**Note 1:** *Some turntables do not have a ground wire but have a cartridge negative return lead connected internally to the turntable/tonearm chassis.*

**Note 2:** *Some cartridges have a negative signal pin linked to a metal cartridge body. If the cartridge body contacts the tone arm metalwork via the connecting hardware this may cause a hum loop. Consult your dealer before you remove this link.*

**Connecting the QUAD *twenty four* P to the control unit**

**Fixed Output:** This is the default output and should be used for all connections to a preamplifier. Using a suitable RCA phono cable, connect the FIXED output sockets to a suitable *line* or auxiliary input on the control unit. Push the plugs firmly into place to make secure contact. In the case of the QC – *twenty four,* do NOT connect the ground terminal of the Phono input to the ground terminal of the Quad *twenty four* P.